

Post-disaster recovery and sociocultural change: rethinking social capital development for the new social fabric

KW: Recovery, social capital, Montserrat, volcano, cohesion, disaster

Abstract

The post-disaster period is critical for reducing vulnerability and building resilience. Social capital plays an important role in generating and maintaining risk reducing behaviour and a rich evidence base demonstrating its contribution to the recovery process exists. Yet, so far little distinction has been made between the different types of social capital, despite important variations of outcomes. To address this gap, this article examines the evolving roles of specific forms of social capital on the long-term post-disaster recovery process. We explore the disaster recovery process on the active volcanic island of Montserrat in the Caribbean, marked by rapid and intense post-disaster demographic change following the beginning of the eruption in 1995. We explore the challenges of the shift from a relatively homogenous to a relatively diverse population for building a resilient society. Our investigation illustrates the complexity of the recovery process and the coexistence of conflicting objectives which, if poorly managed, can create new forms of vulnerability and impede the sustainability of the development process. We argue that not all forms of social capital development are beneficial for the long-term recovery process. In a diversifying society, bonding social capital may have perverse effect while bridging and linking social capital may be key for building social cohesion, a key contributor to sustainable development. We argue that measures for re-development should be sensitive to the long-term effects of different forms of social capital, in particular their consequences for building social cohesion, a key contributor to sustainable recovery in a dynamically changing society.

1. Introduction

Post-disaster periods give rise to major short-term and long-term challenges for affected communities. In addition to facing emergency response' needs, recovery measures have direct and indirect impacts on the long-term development trajectory of an affected society. Yet, the complexity of the long-term recovery processes and the multiplicity of its dimensions remains relatively underexplored.

A growing number of studies have shown that social capital is a key driver of sustainable recovery [1], [2]. It can prevent marginalisation of some social groups [2]–[4], support preparedness to disaster and risk awareness [1], [5]–[7], or even support trust between social groups and decision-makers [8]–[10]. Yet, social capital can also have a perverse effect on long-term recovery by reinforcing inequalities [11]–[14] or by encouraging harmful behaviours [12], [13], [15], [16]. There is therefore a need for a more careful attention on the paradoxical effects of social capital for long-term recovery. A distinction between different forms of social capital, namely bonding, bridging and linking, enables a better understanding of their evolving roles and influences through different stages of the post-disaster recovery process. This study is one of relatively few to explore the role of specific forms of social capital for supporting sustainable post-disaster recovery. Here we aim to provide more

understanding of the obstacles to reducing vulnerability, building resilience and lessening the risk of recurrence in future.

Using an ethnographic approach, we analyse the case of Montserrat, a Caribbean British Overseas Territory, severely affected by volcanic eruptions from 1995 to 2010¹. One of the main long term impacts of the disaster is the rapid demographic change due to high levels of both emigration, with the departure of affected people, and the immigration of workers from neighbour countries. Here, we explore the challenges of the shift from a relatively homogenous to a relatively diverse population for building a resilient and sustainable society. The paper illustrates the complexity of the post-disaster recovery process and the coexistence of conflicting objectives which, if not well managed, can create new forms of vulnerability and hence impede the sustainability of the development process. We argue that measures for re-development should be sensitive to the effects of different forms of social capital, in particular their consequences for building social cohesion, a key contributor to sustainable development, in a dynamically changing society.

After briefly reviewing relevant research literature on disaster, recovery processes and social capital to establish the basis for our analysis, we describe the empirical case study focus for the paper, and outline the methodology employed in the research. We then explore the role of different forms of social capital through the post-disaster period and their implications for the long-term recovery process and resilience building. We conclude by highlighting the importance of promoting a shift from bonding to bridging social capital in a diversifying society in order to build resilience.

2. Disaster, post-disaster recovery and social capital

2.1. Recovery

Post-disaster recovery is discussed mainly in terms of response, rehabilitation, restoration and reconstruction but rarely are the long-term dynamics considered. Recently, the focus of disasters research has been at decadal-scale post-disaster recovery and directed towards vulnerability reduction [17]. The post-disaster decision-making process is challenged by the consequences of the disaster and the loss of resources. Yet, it plays a crucial role in determining the long-term recovery trajectory of affected communities. It is an opportune time for learning from past events in order to create a more resilient society [18]–[20]. The Hyogo Framework for Action for 2005-2015 and the Sendai Framework for Disaster Risk Reduction for 2015-2030 have institutionalized this in the principle of “Build-Back-Better” [19]. It distinguishes the recovery process from the idea of a “return to normal”, i.e. to the conditions existing before the disaster, to a need for change and improvement in order to reduce the impact of drivers of vulnerability to natural hazards. Hence, it recognizes the need to include preparedness measures within the recovery period, instead of considering them as separate stages of the disaster cycle.

While building-back-better and learning from experience is ideal, it remains challenging to understand the post-disaster recovery process and the recipe for its sustainability. Indeed, the recovery process encompasses multiple dimensions, e.g. physical, environmental, social, psychological or demographic, each proceeding at a different pace and interacting with the others, in ways that might facilitate or impede them [21]–[23]. It is critical to understand these interactions in

¹ As of May 2019, the eruption is still officially ongoing although activity at the volcano remains low.

order to implement sustainable practices, reduce vulnerability and build resilience. The sustainability of the process is strongly linked with the concept of resilience [24]–[27], which is seen as “the intrinsic capacity of a system, community or society predisposed to a shock or stress to adapt and survive by changing its non-essential attributes and rebuilding itself” [25]. It presupposes a learning process that prevents reproducing pre-disaster status-quo [28] [29], although policy-makers and affected people commonly attempt to recreate the resources lost during the disaster and the environment with which they were familiar. Recovery processes build on pre-existing social structures, culture and values, in order to create a more resilient and sustainable future. They can, in turn, reproduce existing social inequalities or, inadvertently, create new sources of vulnerability to disaster [30].

We argue that there are learning processes taking place at different levels in the recovery process, implemented through policy and practices, that contribute to determine how adaptive or maladaptive is society’s transformation, and hence the sustainability of the implemented change [26], [31], [32]. Although there has been much research on the best approaches to reduce the risk of disaster and address vulnerabilities, there are relatively few studies of the challenges of implementing measures for DRR in a post-disaster period, a period of transition marked by multiple disruptions to society.

2.2. Social capital, disaster and recovery

2.2.1. What is social capital?

The concept of social capital has been used increasingly in recent years to explain differences in economic, social and political development [8], [33]. While this concept has initially been developed and understood by the sociologists Bourdieu and Coleman as a private good, beneficial at the individual or small group level [34], disasters and post-disaster development research tends to be informed by the collective perspective of Robert Putnam. His concept focuses on the *collective* outcomes of connectedness between people and the structural effects of social capital on community or national development. He describes social capital as, “the features of social organizations, such as networks, norms, and trust, that facilitate action and cooperation for mutual benefit” [35]. He elaborates on this, noting how these, “intangible resources of community, shared values and trust upon which we draw in daily life [...] can improve the efficiency of society by facilitating coordinated actions” [35].

The understanding and measurement of social capital are made difficult by the different contexts to which the concept is applied and the purposes to which it is put [15]. However, a distinction can be drawn between bridging, bonding and linking social capital [8], which in turn is related to the heterogeneity or homogeneity of groups [3], [15]. Bonding social capital refers to social ties that link people together with others who are primarily like them in some key respect (e.g. community, race, religion). It often characterizes homogenous groups [2]. Bridging social capital refers to social ties that link people across social differences and divides [36]. Linking social capital refers to ties with people with access to power [37]. This third type introduces a more hierarchical dimension, although in many cases it can overlap significantly with bridging networks.

Despite its analytical limits [38], [39], such a distinction is critical since the different forms of social capital contribute differently to adaptation [40], development and social cohesion [39], [41]. Putnam argues that bonding social capital, “is good for undergirding specific reciprocity and mobilizing solidarity” [8]. It reinforces conformity and solidarity but can be, as a consequence, exclusive to the

others, those who do not share this conformity [39]. Importantly, research demonstrates that homogenous communities often display stronger bonding social capital than heterogeneous ones, but less bridging and linking social capital [3], [42]. Putnam also maintains that bridging social capital is inclusive and enables, “linkage to external assets [and] information diffusion” [8]. Correspondingly, research has demonstrated that in heterogeneous populations bridging social capital has greater value, because it enables exposure to, exchanges and development of ideas and values, and hence enhances social cohesion [3], [15], [43].

2.2.2. Social capital, disasters, and recovery

The importance of social capital and social cohesion for development and resilience is now widely acknowledged [1], [2], [6]. As disasters are intimately linked to daily life and development processes [24], social capital plays a critical role in reducing the risk of disaster [2], [5], [6], [44], [45] and for post-disaster recovery [46], [47]. Murphy [6] also claims that the value of social capital as a lens through which disasters can be analysed is in, “its emphasis on the role of community members as active agents rather than passive victims”. In a review of the literature, Meyer [1] shows that social capital has a positive impact on mitigation and adaptation strategies. Reflecting on post-disaster context, Aldrich [44] argues that social capital is, “the strongest and most robust predictor of population recovery after catastrophe”. Pelling and High [40] suggest that the growing interest in social capital enables us to better understand the role played by social attributes, in particular social networks and norms, in the production of adaptive capacity and adaptive actions to environmental change, a view echoed in other studies [48]. Because of the importance of social change [2], [49], [50] and social capital in the recovery process, several authors have called for a re-orientation of recovery programmes, from the established approach focused mainly on physical infrastructure to programmes that target forms of social infrastructure, like social capital [2], [17], [41], [51].

Social capital can facilitate access to a variety of resources, including information, social support, and financial aid [2]–[4], that can prevent the marginalization of individuals or communities, support their awareness of risks and level of preparedness, and hence reduce their level of vulnerability to disaster. Trust, a critical element of social capital, is particularly critical for facilitation, coordination, cooperation and communication [8]–[10], [14] before, during and after a disaster. It also contributes to shaping collective and individual actions [40], [44], [52], and to encouraging the participation of the different stakeholders in decision-making [8]. Research shows that trust, inclusion and participation in decision-making have been major factors in successful community-level preparedness, mitigation and adaptation [1], [40]. Moreover, numerous studies have shown that bonding, bridging and linking social capital are complementary during and after crises, playing different roles [2]. For example, research has found that a high level of bridging social capital is generally associated with a higher level of preparedness [1], [5]–[7] and better access to information and supplies during the recovery process [3]. Linking social capital is particularly valuable as it provides access to power structures and institutions [3], [43]. During the post-disaster period, affected individuals and communities tend to rely primarily in their bonding social capital, in particular their family members, for immediate support, mainly through the supply of provisions [2], [49]. Studies have demonstrated that strong bonding social capital increases the likelihood of collective action for recovery [2], [14], [46], [53], [54] and can reduce the reliance on external support and aid. Hsueh [47] also emphasized the complementary role of the three forms of capital after a typhoon, and the higher support rates and recovery satisfaction among the people who had higher bridging and linking network, compared to those relying exclusively

on their bonding network. Yet, the nature of the social fabric is not specified, hence it makes the generalisation of those results to another case study difficult.

The availability of these different forms of social capital also evolves over time, and is context dependent. Islam & Walkerden [55] found that immediately after extreme weather events, communities in Bangladesh relied heavily on both their bonding and bridging social capital. As time elapsed, however, they found that only bonding networks continued to be active, while bridging relationships tended to weaken because of poverty, conflict or competition over access to resources or external support. The same analysis was made by Masud-All-Kamal & Monirul Assan [56] a few years later, still in Bangladesh, as they highlighted that linking social capital eventually was used for the benefit of a few only. Although other research has found that the role of bridging social capital grows over time after disaster [1], [3], [4], there is evidence that bonding networks, because of their exclusivity, can tend to prevent the development of bridging social networks [11]–[13].

The existing studies focus on the use of social capital. There is a need to analyse how the later can be adjusted and transform to promote sustainable recovery. The negative externalities of social capital must be considered as they can alter the recovery process and resilience building [12]–[14]. Recognizing the perverse effects of social capital is essential in order to adapt policies and development projects during the post-disaster period [12], [13]. Research has highlighted two major downsides of bonding social capital in particular. First, when a group is linked by strong ties that lead to the exclusion of outsiders, it can reinforce social and economic inequalities [11]–[14]. In their study of the recovery process following Hurricane Katrina in New Orleans, Aldrich and Crook [57] show that strong local networks benefited only some sections of society. While they provided resources for a fast and efficient recovery for a large part of the society, they also tended to exclude those who were ‘outsiders’ to those social networks, and hence it encouraged resistance against certain recovery needs. A high level of bonding social capital can also increase the incidence of risky behaviours due to individuals following or helping other members of the community [1], [58]. These studies emphasize the paradoxical roles of social capital within the recovery processes, and hence the need to better contextualise the process, both in terms of social fabric and recovery needs and objectives for short and long-term. Here, we argue that different forms of social capital should be strategically thought and developed, informed by these studies, in order to promote sustainable capital.

3. Study area

This research was conducted on the island of Montserrat, a small British Overseas Territory located in the Caribbean that was severely affected by volcanic eruptions from 1995 to 2010. The first eruption occurred only six years after Hurricane Hugo had devastated about 90% of the country’s infrastructure. The Soufrière Hills Volcano, located in the South of the island, became active after more than 300 years of dormancy. In 1997, the southern two-thirds of the island was evacuated and remains an uninhabited exclusion zone (Figure 1). Pyroclastic flows and lahars destroyed the capital city, Plymouth, and most of the major infrastructure. Although the last significant activity occurred in 2010, the volcano is still active, with continued uncertainty regarding the level of risk [59].

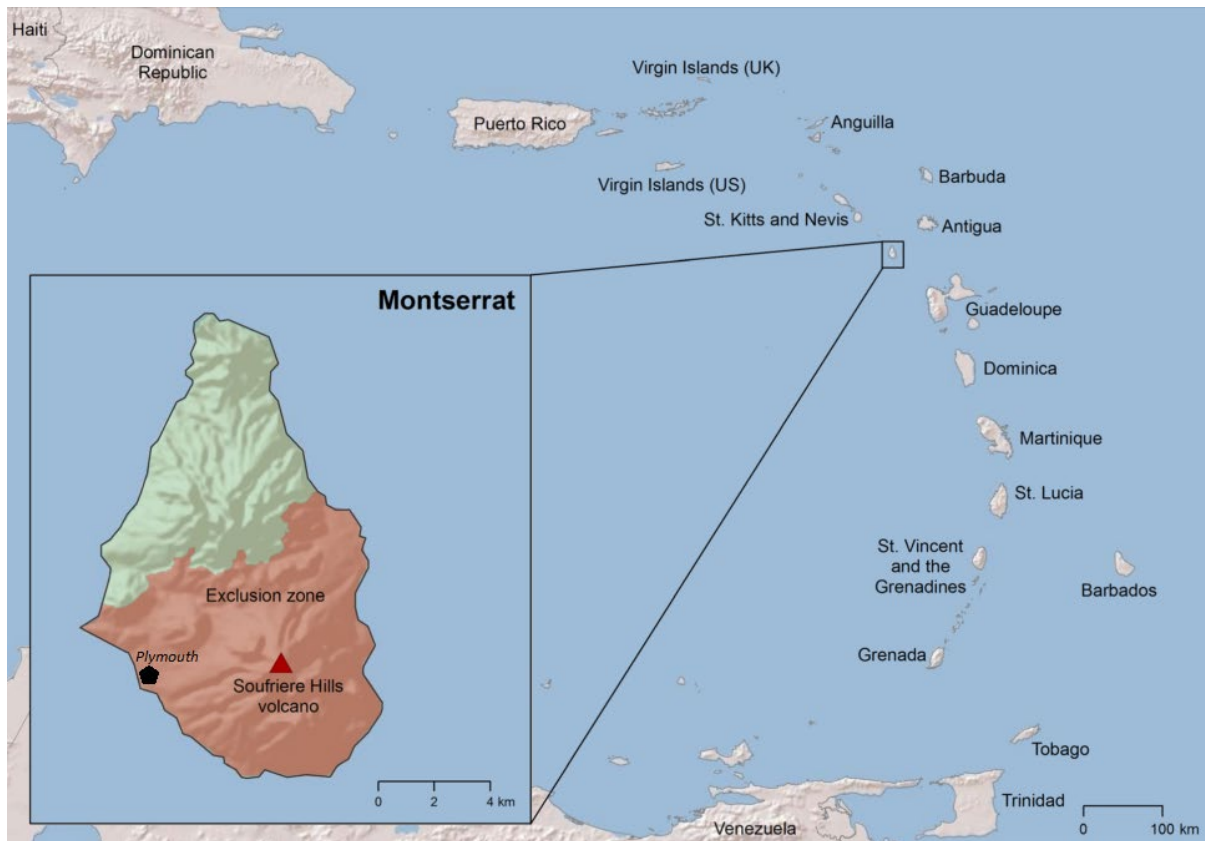


Figure 1: Position of Montserrat in the Lesser Antilles island arc [60]

The disaster gave rise to transformative social changes. In 1998, three years after the beginning of the crisis, three-quarters of the population of about 10,300 emigrated to the UK or to neighbouring Caribbean countries. This was largely in response to relocation schemes set up by the British government. The rest of the population, reduced at its lowest point to only 2,400 inhabitants, and including dislocated families, had to relocate to the underdeveloped North of the country. The Montserratian government decided, in 1998, to attract immigrants from other Caribbean countries to encourage demographic growth, support rebuilding and compensate for the loss of skilled workers. From 2002, the population started to increase again thanks to immigration, stabilizing between 4,000 and 5,000. Reliable data are not available but it is estimated by Montserratian officials that as much as half of the current population is composed of immigrants, mainly from Guyana, Jamaica and the Dominican Republic. As a result, the population profile is considerably changed, from the relatively homogenous society that existed before the disaster, composed of only 19% non-Montserratians², to the very diverse society of today. It is because of this process of rapid, disaster-induced social change and its consequences for post-disaster recovery that Montserrat was chosen as the empirical focus for this study. The aim of the research was to examine how the different forms of social capital contributes to the sustainability of post-disaster recovery.

It may be objected that Montserrat, given the prolonged nature of the volcanic eruption and the relative scale of displacement and subsequent depopulation, represents an extreme case. The rationale for choosing it is as a focus for this study is that it more starkly highlights processes that need to be understood and enable lessons to be learned that may be relevant to more typical situations

² Data provided by the Department of Statistics of the Government of Montserrat in 2016

[61]. Montserrat shares common characteristics with small island developing states that are vulnerable to volcanic or other natural hazards. Without claiming that the specificities of the situation in Montserrat can be generalised, we can, nonetheless, learn from its experience and glean insights about the role of social capital in processes of post-disaster recovery that may be transferred to other settings. They will have particular relevance for other places with a relatively homogenous population that face rapid demographic change after a disaster.

4. Methods

The researcher (Monteil) spent a total of nine months on Montserrat, in April 2015, January-May 2016 and January-March 2017, and used a variety of qualitative data collection methods to study post-disaster recovery processes, including ethnographic observation with detailed field notes; both semi-structured and informal interviews; and focus group discussions. Multiple methods were used to triangulate the data, adjust to the sensitivity of the subject, and to capture both the said and non-said within society. In total 130 interviews as indicated in Table 1.

	<i>Institutions/groups</i>	<i>Total number of interviews</i>	<i>Formal interviews (number)</i>	<i>Informal interviews (number)</i>	<i>Women</i>	<i>Men</i>	<i>Age range (estimation)</i>
1	Government officers (British and Montserratian government) from different departments	21	21		9	12	30-60
2	Risk management/ monitoring institutions (Disaster Management Coordination Agency, Montserrat Volcano Observatory, Red Cross)	10	10		5	5	30-60
3	Social/Health/Educational institutions (like social services, schools, churches)	16	16		12	4	30-65
4	Business people	5	5		2	3	25-55
5	Montserratians	20	8	12	7	13	20-75
6	Guyanese	14	8	6	8	6	15-65
7	Jamaicans	14	6	8	6	8	20-65
8	Dominicans from Dominican Republic ³	12	7	5	5	7	45-70
9	Other nationalities	18	3	15	4	14	30-60
	Total	130	84	46	58	72	

Table 1: Interviews conducted between 2014 and 2018 in Montserrat - (The members of risk management, social/health institutions and business people (categories 2, 3, 4) were both Montserratians and non-Montserratians).

Despite repeated efforts, it was not possible to convene a focus group of immigrants from the Dominican Republic. Observation was mainly focusing on the type and level of interactions between social groups, of participation to various sorts of activities organised by NGOs, government, schools or communities themselves. It was also focusing on people's reactions to development programs and policy changes. All data, including notes and audio records, were transcribed, and then coded in NVivo for triangulation and analysis. The process of coding evolved throughout the analysis, corresponding overall to the three stages defined by Charmaz [62] as the initial coding, the focused coding and the

³ The latter are referred to in this article as Dominicans but should not be confused with people originating on the Caribbean island of Dominica, of whom there are also a number living on Montserrat.

theoretical coding. Data were analysed with guidance and constant comparison with the conceptual framework developed earlier. It is important to acknowledge the practical difficulties encountered during the data collection process and how they may have influenced the results. Data collection methods had to be adapted after entering the field because of the sensitivity of the topics tackled in this study, which often made it impossible to make audio-recordings or even taking notes during most interviews. The consequent reliance on the researcher's memory when making notes after the event may have led to some inaccuracies or inadvertent omissions. Moreover, it was challenging for the researcher as a young white woman to gain access to some individuals or groups within the different communities in order to conduct interviews or group discussions. The researcher made efforts to minimise any impact that these practical challenges might have on the dependability of the study by triangulating data from each interview with those collected from other data sources.

5. Results and discussion

Analysis of the post-disaster recovery processes in Montserrat highlights the complex role of social capital. In this section, we first review briefly the adverse effects of the disaster on social links and social cohesion on the island. We then examine how efforts to re-establish a sense of cultural normality and economic stability for the remaining Montserratian population, which have perverse implications for both social cohesion and disaster risk reduction, come into conflict with long-term sustainability goals. Finally, we examine efforts to create and reinforce forms of social capital that contribute to social cohesion.

5.1. Disruption of social links during the volcanic crisis

The eruption of the Soufriere Hills Volcano in 1995 was followed by several episodes of intense activity, the most recent in 2010. It prompted the evacuation of the capital city, Plymouth, and surrounding villages, that were partly destroyed in 1997 by pyroclastic flows [63]. The evacuations of the Southern and Eastern parts of the Island led to significant disturbance of Montserrat's physical and social environment [64]–[66]. The displacement of most of the population, first within the country and then, for 75% of Montserratians, off the island, led to a breakdown of the social fabric, both at household level and at community level [67]. New interviews revealed that some families remain separated twenty years after the beginning of the crisis. The break-up of communities also led to a transformation of social practices, in particular relating to social care for children and the elderly, and to a persistent sense of loss and of nostalgia for the old neighborhoods and communities. About this rapid transformation, a policy-maker said during an interview in May 2016:

"Our sense of what is being a Montserratian is lost, [...] all those kinds of things that are deeply embedded in the culture. People [...] have anxiety because those things are being lost and also they have anxiety because young people are leaving [...] so there is this feeling that for some people they really don't want to come to turn to the fact that it's a completely new Montserrat."

The rapid immigration of other nationalities and ethnicities since the beginning of the crisis has for many Montserratians compounded this acute sense of disruption and loss. That immigrant groups have come to constitute, in just two decades, about half of the total population has ramifications for the development trajectory of the country, for power relations between social groups, and for cultural

practices. This dramatic influx of ‘foreigners’, economically and politically necessary in the absence of a return by large numbers of the Montserratians who left the country during the volcanic crisis, is experienced by many who remained as bringing an additional unwanted transformation to their society. The presence of these new immigrants consequently has become the focus of critical public comment, which often reveals the fears of ordinary Montserratians and their rejection of these groups. During interviews and informal conversations, Montserratians frequently emphasized the differences between native Montserratians and the three main immigrant groups and expressed disquiet or anger at the changes that have accompanied the arrival of these new residents. Immigration was encouraged to address the shortage of workers that resulted from the mass exodus from the island during the volcanic crisis. Inevitably this has led to increased competition in some sectors of the labor market, as the incomers, in the way of economic migrants worldwide, are often more ready to accept working conditions and levels of pay that are not attractive to Montserratians. Immigration is also blamed by some for a perceived increase in crime and for a loss of traditional values. This is fervently expressed in a contribution by a Montserratian, in February 2016, to a public discussion on Facebook:

“After [immigrants] finish doing what they came to Montserrat to do, I say send them back home to Jamaica or wherever they came from. Soon they will start making children and start telling us, THE NATIVES, how to live in our own island. We don’t need other people from other countries coming here and dictate to us. Soon they will [bring] their criminals elements with them.”

The post-disaster period hence began with an important disruption of the pre-existing social capital. Bonding social networks have been broken down first by the quick and large emigration of the previously homogenous social group. This has been rapidly intensified by the immigration of foreign labour, strategically attracted as a recovery strategy, and thus with the transformation of the society as a heterogeneous group.

5.2. Recovery process challenged by contradictory priorities

The multitude of needs and objectives during the post-disaster period make conflicts, compromise and trade-offs inevitable. The psychological dimension of recovery plays an important role, especially in a small society like Montserrat, where decision-makers and citizens are closely connected. A large part of the decision-making therefore aims to reinforce the sense of stability and safety of the Montserratian social group, despite the long-term implications it may have. That proceeds mainly by multiple efforts to restore – or recreate - the society as it used to be; that is homogenous and centred around the Montserratian social group, which has the largely unintended consequence of preventing the integration of non-Montserratians groups. It emphasizes in particular the objective of restoring a strong bonding social capital.

Hence, although there is a persisting need for demographic and economic growth, decision-makers have made it explicit that it should be addressed by encouraging the return of the Montserratian diaspora. Yet, return of diaspora has been proved relatively difficult, mainly because of lack of jobs and housing, and remains slow according to Montserratian officials. Institutional measures, such as immigration control through enforcement of work permit regulations, the tightening of visa renewal procedures and naturalisation process to achieve British citizenship, aim to coax potential returnees back by making it challenging for immigrants to work and stay in Montserrat. Moreover, despite the demand for highly qualified and skilled workers, amplified by the emigration of

Montserradians during the volcanic crisis (Halcrow Group Limited, 2012; Sword-Daniels et al., 2014), informal measures attempt to restrict access to certain jobs, in particular governmental jobs, to Montserradians. The national newspaper states on its page for job advert:

"All employers are reminded of Section 4.8 of the Work Permit Policy which requires that 'Every job being offered to a non-belonger must have first been advertised extensively in the media in order to give local persons a fair opportunity to apply'. Proof of such advertisement must be submitted to the Labour Department when making application for Work Permits" [68].

Interviews with both Montserradians and non-Montserradians have shown that the term 'local persons' is often understood as a person of Montserradian origin. It leads to a widely spread and unquestioned belief that priority for employment must be given to Montserradians, while the article 79 of the Labour Code [69] states that no discrimination should occur. In practice, this divides the job market by nationality of origin and effectively restricts access to employment in the public sector to the Montserradian community. The post-disaster recovery process is fraught with conflicting objectives in a context of social fabric transformation. On the one hand, the need to restore stability and sense of 'normality' is demonstrated by efforts at national scales to reinforce bonding social capital among the remaining Montserradian social group. On the other hand, the objectives of economic, physical and demographic recovery require a better consideration of the diversification of the society through the development of bringing and linking social networks.

5.3. Shaping cultural identity as strengthening Montserradian bonding capital

During the volcanic crisis, in the face of catastrophic disruption, a strong sense of collective identity and shared adversity helped those Montserradians who remained on the island to endure, adapt and begin the process of recovery. The post-disaster period, however, has been marked by the question of what it means to be Montserradian, a question regularly discussed publicly in media and often a subject of great interest both for those who remained and those who left the country. Shaping cultural identity with the aim of restoring a sense of Montserradian society "as it used to be", a notion often asserted by native residents, has been an important response to the rapid post-disaster socio-cultural changes.

Montserradian identity is expressed publicly in specific practices, which are celebrated and asserted during national cultural events, such as the Christmas or St Patrick's Day festivals. These practices contribute to the symbolic construction of a Montserradian sense of community, citing cultural references that bring the included group together and distinguish it from others [70]. They also emphasize values that are seen as distinctly Montserradian, such as the sense of hospitality and the quietness, but are felt to be endangered by immigration. A Montserradian academic explains:

"The essence of Montserradness is captured in maroons, [...] calypsos, steelbands, masquerades and string bands. It is also manifested in dressing in one's 'Saturday and Sunday best', the 'strangers' paradise' hospitality, 'the-morning-neighbour-morning' greeting, the communal joys and sorrows and an exciting 'Montserrat English' (dialect). There is no Montserradness without these Irish legacy: the Shamrock, the Lady and the Harp, St Patrick's Day, goat water, surnames such as Allen, Bramble, Dyer, O'Brien, O'Garro, Riley and Tuitt." [71].

This construction of Montserratian culture emphasizes elements drawn from a specific representation of the pre-disaster society. Although this can be seen as the expression of a desire to emphasize cultural continuity after the collective trauma of the disaster and the subsequent social changes, it also arises from a conscious questioning of what constitutes the Montserratian identity, something that was not such a focus of concern during the pre-disaster period when this identity was not felt to be threatened and hence was not questioned. One consequence of this has been a greater emphasis on Montserratian cultural practices and a stronger assertion of a specific identity than was the case prior to 1995. This is not, however, viewed as an unmitigated good by all of the island's residents. Three community workers, Montserratian and non-Montserratian, from different organizations who were interviewed expressed regret that cultural events emphasize very little of the post-disaster characteristics. For instance, while several events celebrate the villages that were abandoned during the volcanic eruptions as part of the national heritage, some of the interviewed community workers, of different origins (including a Montserratian) regret that there is no equivalent for the new villages. One community worker explained that the exclusive focus on abandoned villages prevents the development of social cohesion and of pride in the newly built neighbourhoods. This was echoed during a focus group with a group of Guyanese women, who explained that they do not like the period of the St Patrick's festival because its cultural exclusivity reminds them that they do not belong in this culture.

Hence, while the reinforcement of Montserratian cultural identity strengthens the bonding capital of the Montserratian community, weakened by two decades of rapid demographic transformation, it simultaneously obstructs the creation of closer connections between different social groups and the cultivation of bridging social capital. It therefore excludes non-native Montserratians, who represent about half of the population and who play a critical role in the economic and physical development of the island, from the process of collective identity construction that is so important to social cohesion.

5.4. Promoting social cohesion to promote sustainable recovery

The post-disaster recovery period is critical for sustainable development in the sense that it aims to promote changes that support a fully functioning society that is less vulnerable to natural hazards. Learning from disaster involves, among other things, paying greater attention to factors of vulnerability. Strong bridging and linking social capital are critical for social cohesion [3], [15], [43], and hence to resilience and vulnerability reduction, two major aspects of the recovery process [1], [2], [6]. In order to assess the sustainability of the recovery process among this heterogeneous and changing society, we analysed the type and impact of initiatives that have gradually emerged during the post-disaster process and that aim to promote social cohesion and hence encouraging sustainable recovery. They are mainly grassroots initiatives that have been developed as a reaction to the emerging challenges associated with the cultural diversification of the population. They are initiatives conducted by government, disaster risk reduction organizations and those involved in welfare (including churches and schools). Our analysis shows that they are mainly dedicated to the promotion of some specific aspects of social capital, in particular the creation of shared representations and meanings between social groups, and less focused on the creation of network of access between social groups of different origins and trust building [72].

Because of the increasing diversity of both teachers and pupils, secondary school teachers who were interviewed highlighted the need for events that foster cultural understanding. One teacher explained:

422 *We had a cultural presentation [...]. We actually featured the culture of all other*
423 *territories, so they were able to share and everybody appreciate each other's culture.*
424 *And that was really essential for the unity of the school. [...] We have a number of*
425 *students from Santo Domingo, Spanish speaking [...]. And the students accepted what*
426 *they did, and actually surprisingly [...] they were very welcoming. (Interview in*
427 *January 2016)*

428 Such initiatives aim to promote some aspects of bridging social capital including sense of trust,
429 respect, and sense of identity that links social and cultural groups. However, this kind of initiative
430 remains relatively rare, and limited mainly to a few spaces where interactions between social groups
431 are critical, such as school and church.

432 Similarly, sporadic initiatives have aimed to address language barriers faced by two of the
433 immigrant communities. Teachers pointed to the importance of language classes. Spanish-speaking
434 students are offered English classes to support them in their academic studies, and hence in their
435 social integration. However, Spanish classes are also offered to all students. A teacher explained
436 during an interview that with the increase of the Dominican population, English-speakers also had to
437 make an effort to communicate with these newcomers. Similar initiatives have begun to address the
438 language needs of adult immigrants. Bi-lingual leaders in the Haitian and Dominican communities
439 explained that they translate official documents into, respectively, French Creole and Spanish, to
440 enable their community members to manage official administrative tasks. A member of the Dominican
441 community also voluntarily organises English classes on her free time, although this is insufficient to
442 address the needs of the whole Dominican community. A similar project has been established by a
443 pastor for the Haitian community. At the time of this study, however, there was no translated
444 information being offered by government for key services such as health and welfare.

445 All of the grassroots initiatives described above have emerged from the realisation that with the
446 increasing diversity of the population, there is a need for better integration. The same observation has
447 been made by members of the organisations in charge of disaster management and hazards
448 monitoring. During interviews, they emphasized that language and lack of cohesion were a major issue
449 for the efficiency of their work. A scientist working at the Montserrat Volcano Observatory (MVO) in
450 2016 pointed out that he had little knowledge of what constituted effectiveness of MVO's
451 communication activities, in particular because he was not sure that immigrant groups use the same
452 media information sources as Montserratians. The Montserrat Disaster Management Coordination
453 Agency (DMCA), facing the same issues, has taken the initiative to translate information pamphlets
454 into several languages. Nevertheless, members of the agency's staff also indicated their uncertainty
455 about the effectiveness of these measures because of the assumed inadequacy of pamphlets generally
456 as a communication tool. Despite these efforts, it therefore seems reasonable to infer that differential
457 access to information continues to be a barrier to communication and awareness raising for disaster
458 risk reduction that is effective across all social groups.

459 At the time of the study, measures for promoting social cohesion were mainly focused on
460 facilitating communication. Apart from the school initiative described above, we have not identified
461 major measures promoting trust between social groups, a critical element of bridging social capital
462 [8]–[10]. The Red Cross is the only organisation that explicitly aims to reinforce bridging and linking
463 social capital through its programs while playing a major role in poverty alleviation and disaster risk
464 reduction on the island. Several immigrants explained during interviews that volunteering with the

Red Cross was a way of becoming integrated into the life of the island and to connect to powerful actors. This is reflected in the composition of the Red Cross's volunteer team, which includes many newcomers. Yet, the small number of Montserratians actively involved in the organisation limits its capacity to build strong links between migrants and non-migrant groups. The organisation also plays a critical role in giving a legitimate and effective voice to facilitate exchanges with policy-makers, and hence build linking social capital, crucial for effective recovery process [3], [43].

The development of both bridging and linking social capital require supporting measures to be taken at a national level in order to make structural transformations. Although, as we saw earlier, there are no major national initiatives as a consequence of the existing pressure to restore a form of 'normality' that reflects the pre-disaster society, there were indications of an increasing awareness of the need to foster bridging social capital. Political campaigning during the 2017 by-elections saw calls for the integration of immigrants. A party political speech broadcast by the opposition 'Movement for Change and Prosperity' (MCAP) party during their campaign couched this in terms of social justice:

"We need a new kind of politics, a politics of inclusion. Instead of creating divisions we should be breaking down barriers. Everybody on this island deserves to be treated equally. Do we really think Montserrat is going to progress if we disenfranchise half the population? [...] We want a Government of the people, by the people, and for the people." (Radio broadcast by the opposition MCAP party, January 2017)

He argues here that the development of linking social capital could be used consecutively for supporting the reinforcement of bridging social capital between the different social groups.

The sustainability of the recovery process is still endangered by the lack of major government initiatives for promoting social cohesion. Yet, there is growing public acknowledgement among the island's politicians, similar to what has driven the grassroots initiatives, that social segregation adversely affects the functioning of society and may be harmful to the Montserrat's long-term development.

6. Conclusion: bonding social capital as an obstacle to sustainable recovery in a diverse society

Among the effects of disaster, social disruption can have significant long-term impacts. In extreme cases, such as that of Montserrat, this extends to the transformation of the socio-demographic structure of the society, from a homogenous to a heterogeneous one. These changes in turn may influence or even determine the trajectory of post-disaster recovery. During this critical period, re-thinking the role of social capital is critical. It can either promote social cohesion, thereby contributing to reducing vulnerability, or it can create the conditions for future disaster. However, this study highlights that the conflicting goals of the post-disaster recovery period, in particular the need to support the psychological and social recovery of affected social groups, as well as economic and other constraints on policy intervention, can prevent the development of new or altered forms of social capital in order to adapt to changed post-disaster conditions. The transformation of the social structure requires adjustment of the type of social capital, in this case to develop bridging and linking social capital, in order to promote social cohesion, a key factor of a sustainable recovery process.

Yet, in the case of Montserrat, the need for stability and a sense of normality encourages the reinforcement, in both formal and informal ways, of the bonding social capital that helped the

population get through the crisis period. Although this supports the recovery process to some extent, it also damages the social cohesion within the newly diverse society by obstructing the development of bridging and linking social capital between the different social groups. There have been *ad hoc* grassroots measures aiming to promote bridging and linking social capital, but there remains a major need for more coordinated measures to support the transformation of social capital in a way that promotes social cohesion. In the absence of that, in a context of significant demographic transformation, the resulting recovery trajectory may contribute to maintaining immigrant groups in a situation of relative marginalization, which in turn is a root driver of vulnerability to disaster [24], an obstacle to sustainable recovery process.

More broadly, this study contributes to better understanding of the complexity and specificities of the different forms of social capital in any affected community or society. While the importance of social capital for post-disaster recovery is now widely acknowledged, studies often lack more detailed characterisation and contextualisation, and hence may fail to adequately assess the sustainability of the recovery process. This study highlights the need to distinguish the different forms of social capital and their effects, both intended and unintended, in order to adapt them to the long-term needs of post-disaster recovery, and to better evaluate and coordinate measures taken to promote social cohesion. It emphasizes how different forms of social capital may be strategically thought and developed as a tool for a sustainable recovery.

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